

CCD BULLETIN

Issues in Coastal Community Development

FOCUS: SEA GRANT AND COASTAL LAND USE

Immersed within the Coastal Community Development Program, it is easy to forget that not everyone sees a clear role for Sea Grant in addressing land use issues. The focus of the CCD program varies dramatically among Sea Grant programs, with some CCD specialists emphasizing economic development of fisheries, sustainable boating practices, or technical assistance to fisheries and other marine-based industries. But at its core, the CCD program focuses on the education of local decision-makers, particularly with regard to land use issues – at last count, 24 programs are engaged in land use and water quality education activities, 15 assist in land use planning efforts, and eight report a specific focus on review of land use codes and ordinances. While it is safe to assume that regular readers of the *Bulletin* generally see a central role for Sea Grant in these matters, it might be helpful to provide a brief synopsis of the ways in which land use issues impact the more “traditional” Sea Grant concerns – if nothing else, this will serve as a thumbnail reference the next time someone asks: “Why is Sea Grant involved?”... (See the second page of this *Bulletin* for a list of references you can consult for more in-depth information.)

Habitat and Water Quality

According to the US Fish and Wildlife Service, destruction, degradation, and fragmentation of habitat are the driving forces behind declines in biodiversity. As we build at ever-widening distances from urban centers, a double assault is made on our waterways – forests and wetlands are not just lost, along with the habitat they provide and their capacity to moderate watershed hydrology, but they are also replaced with impervious surfaces, yielding a significantly higher quantity of runoff to waterways. This runoff, along with the contaminants (e.g., toxins, nutrients, PAHs) it carries from our parking lots, roads and lawns, is a primary cause of the degradation of water quality and aquatic ecosystems. As a watershed is increasingly covered by impervious surfaces, the impacts on receiving waters and ecosystems are predictably dramatic: several studies have found that at about 10% impervious cover, sensitive aquatic species begin to disappear. And at 15% to 20% impervious cover, the amount of food available for juvenile fish is significantly reduced. A related problem is the dramatic increase in vehicle miles traveled that accompanies sprawling development: atmospheric deposition is the source of up to 40% of the added nitrogen in U.S. waterways.

Safe Coastal Communities

The loss of coastal habitats threatens not only aquatic ecosystems, but also life, property, and essential infrastructure. For example, Louisiana has lost over one million acres of coastal wetlands over the last 75 years, significantly increasing its vulnerability to the impacts of storm surge. Even prior to the recent upswing in hurricane activity, costs due to natural hazards have been rising, owing in large part to increased settlement in coastal areas and development that has disrupted hydrological systems. The average hurricane landfall in the U.S. (not counting Katrina, Rita, or Wilma) now costs \$5 billion. For comparison, Hurricane Camille, the most intense storm we have ever faced, cost about \$1.1 billion in current dollars.

Coastal Access and Traditional Uses

Poorly planned development and re-development is increasingly resulting in the displacement of traditional, water-dependent enterprises such as marinas, ports, and commercial fishing operations. Access to the coast has become scarce, as historically public areas become private properties. The changing character of our shorelines poses a threat not only to social equity, as affordable housing and waterfront access become less and less available, but also to preservation of these communities, their traditional economies and our coastal heritage, as deeply rooted families and businesses are forced out of coastal areas.

LAND USE AND WATER QUALITY INFORMATION AND DATA



SEA GRANT RESOURCES

The Tidal Creeks Project: Understanding Linkages between Creeks and Urban Sprawl

From South Carolina Sea Grant, these documents outline how land development affects the environmental quality of tidal creeks and salt marshes. To order the 18-page booklet (free):

www.scseagrant.org/library/free_orderform_tidal_book.htm

To order the overview brochure (free):

www.scseagrant.org/library/free_orderform_tidal_broch.htm

Choices for Growth

From Texas SeaGrant and the Gulf Coast Institute, this Texas NEMO publication describes linkages among smart growth, land preservation, and low-impact development. Contact John Jacob at jjacob@tamu.edu for a copy.



NEMO RESOURCES

Nonpoint Source Water Pollution

NEMO Fact Sheet

http://nemo.uconn.edu/publications/fact_sheets/nemo_fact_sheet_2_s.pdf

Impacts of Development on Waterways

NEMO Fact Sheet

http://nemo.uconn.edu/publications/fact_sheets/nemo_fact_sheet_3_s.pdf

Impervious Surface: The Emergence of a Key Environmental Indicator

Article from the *Journal of the American Planning Association*

http://nemo.uconn.edu/impervious_surfaces/pdfs/Brabac_et_al_2002.pdf



FACTS AND STATS REFERENCES

Coastal Population Growth

Population Trends along the Coastal United States: 1980-2008

NOAA's National Ocean Service

www.oceanservice.noaa.gov/programs/mb/pdfs/coastal_pop_trends_complete.pdf

Impacts of Development

Coastal Sprawl: The Effects of Urban Design on Aquatic Ecosystems in the United States

Prepared for the Pew Oceans Commission
by Dana Beach

www.pewtrusts.org/pdf/env_pew_oceans_sprawl.pdf

An Ocean Blueprint for the 21st Century: Final Report of the U.S. Commission on Ocean Policy [See chapters 1, 9 and 14]

www.oceancommission.gov/documents/full_color_rpt/welcome.html

Assessment of Coastal Ecosystems

The State of the Nation's Ecosystems

The H. John Heinz III Center for Science, Economics and the Environment

www.heinzctr.org/ecosystems/report.html

National Coastal Condition Report II

Environmental Protection Agency, 2004

www.epa.gov/owow/oceans/nccr/2005/downloads.html

National Coastal Condition Report

Environmental Protection Agency, 2001

www.epa.gov/owow/oceans/nccr/downloads.html